Industrial Area
Sampling and Analysis Plan
FY03 Addendum #IA-03-12
IHSS Group 500-3

Approval received from the Colorado Department of Public Health and Environment.
( )
Approval letter contained in the Administrative Record.

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ACRONYMS

DOE	U.S. Department of Energy
DQO	Data Quality Objective
EPA	U.S. Environmental Protection Agency
FY	Fiscal Year
HRR	Historical Release Report
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDL	method detection limit
mg/kg	milligrams per kilogram
N/A	not applicable
OPWL	original process waste line
pCi/g	picocuries per gram
PCOC	potential contaminant of concern
RFCA	Rocky Flats Cleanup Agreement
RLCR	Reconnaissance Level Characterization Report
SAP	Sampling and Analysis Plan
UBC	Under Building Contamination
VOC	volatile organic compound

1.0 INTRODUCTION

This Industrial Area (IA) Sampling and Analysis Plan (SAP) (IASAP) (DOE 2001) Addendum #IA-03-12 includes Individual Hazardous Substance Site (IHSS) Group-specific information, sampling locations, and potential contaminants of concern (PCOCs) for an IHSS Group proposed for characterization during Fiscal Year (FY) 03. This IASAP Addendum is a supplement to the IASAP (DOE 2001) and includes data and proposed sampling locations for IHSS Group 500-3. IHSS Group 500-3 consists of the following Under Building Contamination (UBC) and IHSS sites:

- UBC 559 – Building 559 Service Analytical Laboratory
- UBC 528 – Building 528 Temporary Waste Holding Building
- 500-159 – Radioactive Site Building 559
- 000-121 – Tank 7 Active Process Waste Pit
- 000-121 – Tank 33 Process Waste Tank
- 000-121 – Tank 34 Process Waste Tank
- 000-121 – Tank 35 Building 561 Concrete Floor Sump

IHSS Group 500-3 is located in the north central portion of the Industrial Area and is due west of Building 707. The locations of the IHSSs and UBCs proposed for characterization are shown on Figure 1.

1.1 EXISTING CHARACTERIZATION INFORMATION

Existing concentrations and activities above background means plus two standard deviations or method detection limits (MDLs), are presented on Figure 2. Existing information and data for these IHSSs are available in Appendix C of the IASAP (DOE 2001), the Historical Release Reports (HRRs) (DOE 1992-2002), and the IA Data Summary Report (DOE 2000). PCOCs for this IHSS Group include radionuclides, metals, volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and pesticides and herbicides in both surface and subsurface soil.

1.2 SAMPLING

Three types of sampling strategies are used to determine sampling locations: statistical, geostatistical, and biased. Statistical grids have computer-generated random start points and orientations. Additionally, the grids have been extended outside the IHSS to provide additional sampling locations if needed. Biased samples are based on existing data and supplement the statistical grid locations. This IASAP Addendum for IHSS Group 500-3 utilizes both a statistical and bias sampling strategies. Geostatistical methods were not used to determine any sampling locations within this IHSS Group.

2.0 IHSS GROUP 500-3

The PCOCs for IHSS Group 500-3 are listed in Table 1. Proposed new sampling locations are the starting point for IHSS Group characterization. After characterization starts, the number and type of samples may change based on sampling results. Changes to sampling specifications will be considered in consultation with the regulatory agencies.

Table 1
IHSS Group 500-3 PCOCs

IHSS Group	IHSS/PAC/UBC Site	PCOCs	Media	Data Source	Sampling Location Method
500-3	UBC 559 – Building 559	Radionuclides Metals VOCs	Surface and Subsurface Soil	HRR (DOE 1992-2002) Process Knowledge (IASAP [DOE 2001])	Statistical and Biased
	UBC 528 – Building 528	Radionuclides Metals VOCs PCBs	Surface Soil	HRR (DOE 1992-2002) Process Knowledge (IASAP [DOE 2001])	Biased
	IHSS 500-159 – Radioactive Site Building 559	Radionuclides Metals VOCs	Surface and Subsurface Soil	HRR (DOE 1992-2002) Process Knowledge (IASAP [DOE 2001])	Statistical and Biased
	IHSS 000-121 – Tank 7	Radionuclides Metals VOCs PCBs Pesticides Herbicides	Surface and Subsurface Soil	HRR (DOE 1992-2002) Process Knowledge (IASAP [DOE 2001])	Biased
	IHSS 000-121 – Tank 33	Radionuclides Metals VOCs	Surface and Subsurface Soil	HRR (DOE 1992-2002) Process Knowledge (IASAP [DOE 2001])	Biased
	IHSS 000-121 – Tank 34	Radionuclides Metals VOCs	Surface and Subsurface Soil	HRR (DOE 1992-2002) Process Knowledge (IASAP [DOE 2001])	Biased
	IHSS 000-121 – Tank 35	Radionuclides Metals VOCs	Surface and Subsurface Soil	HRR (DOE 1992-2002) Process Knowledge (IASAP [DOE 2001])	Biased
	Miscellaneous Areas (West and South Loading Docks)	Radionuclides Metals VOCs	Surface Soil	HRR (DOE 1992-2002) Process Knowledge (IASAP [DOE 2001])	Biased

2.1 EXISTING CHARACTERIZATION INFORMATION

Existing concentrations and activities above the background means plus two standard deviations or MDLs are presented on Figure 2. One sampling location containing two subsurface points encompasses all relevant surface and subsurface data results greater than background means plus two standard deviations or MDLs. For reference, all other sampling points in the area were plotted.

2.2 SAMPLING

The proposed sampling specifications (number and types of samples) for the IHSS Group 500-3 are listed in Table 2 and shown on Figure 3. Samples being conducted at CE43-000 and CD43-000 have been placed to address known or suspected OPWL leaks.

2.2.1 UBC Sites

For this SAP Addendum, the IASAP 11-meter grid was not used to determine sampling locations at the UBC 559 or 528 sites. Alternatively, for the UBC 559 site, a grid spacing of 22 meters was chosen for statistically sampling this site. The locations for the UBC 528 site utilize a biased sampling approach.

In addition to the statistical sampling locations within the UBC 559, biased points are proposed throughout Building 559. These points are based on elevated results found in the Reconnaissance Level Characterization Report (RLCR) (K-H 2002), original process waste line (OPWL) locations, and a walkdown. In the case of OPWLs, many elements of the OPWL system exist above the foundation. This SAP only targets those elements of the OPWL that are beneath the building or underground.

The statistical grid was not utilized for the characterization of the UBC 528 site. Biased samples were proposed because of the relatively small footprint of the structure and the history of the building. Currently, this structure is designated as a "highly contaminated area". Two sample points are located in this structure (one in between the two OPWL tanks and the other at the building sump). Sample locations were chosen using process knowledge obtained from site personnel knowledgeable in the history and current status of the Building. In both UBC cases, the number of samples proposed provides a high confidence level consistent with the IASAP Data Quality Objectives (DQOs).

Statistical confidence in UBC and under pad characterization sample sets at >90% will be maintained with the currently suggested grid-spacing of 22 meters. Use of the appropriate statistical models, such as U.S. Environmental Protection Agency (EPA) QA/G-4, lognormal, or nonparametric methods (e.g., the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), EPA et al., 1997), will corroborate, with better than 90% confidence, that enough samples were acquired to draw final project conclusions.

2.2.2 IHSS 500-159

Located to the east side of Building 559 is IHSS 500-159 – Radioactive Site Building 559. This area has been addressed with a combination of statistical and bias sampling. When

samples are in the area of OPWLs, these samples will be collected consistent with Attachment 14 of the Rocky Flats Cleanup Agreement (RFCA) Modification (DOE et al. 2003) that describes the "step out" method for additional samples if determined necessary.

2.2.3 IHSS 000-121 (OPWL Tank Sites)

The OPWL Tank-7 area is located within Building 528 and a biased sampling approach is being proposed for its characterization. These bias samples also serve as the characterization samples for UBC 528.

OPWL Tanks 33, 34, and 35 are located in Building 561. Limited historical data is available to confidently locate the tanks in the area of Building 561. The Geographical Information System (GIS) coverage of the OPWL tanks placed them in the central to western portion of Building 561. However, engineering drawings, site walkdowns and conversations with subject matter personnel shows that Tanks 33, 34, and 35 are located in the northeast corner of Building 561. It is in this corner of the building that characterization samples will be taken.

Currently, no evidence exists of OPWL line P-18. However, should any evidence of OPWL line P-18 (beginning on west side of Building 559 and running to Building 561 on Figure 3) present itself during D&D activities, sampling in this area will be re-evaluated.

3.0 REFERENCES

DOE, 1992-2002, Historical Release Reports for the Rocky Flats Plant, Golden, Colorado.

DOE, 2000, Rocky Flats Environmental Technology Site Industrial Area Data Summary Report, Golden, Colorado, September.

DOE, 2001, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

DOE, CDPHE, and EPA, 2003, Proposed Modifications to the Rocky Flats Cleanup Agreement, Rocky Flats Environmental Technology Site, Golden, Colorado, April.

EPA, 1997, Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), NUREG-1575, EPA 402-R-97-016, December.

Kaiser-Hill, 2002, Reconnaissance Level Characterization Report – 559 Closure Project, Rocky Flats Environmental Technology Site, Golden, Colorado, January.

Table 2
IHSS Group 500-3 Sampling Specifications

IHSS Group	IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Offsite Laboratory Method
500-3	IHSS 000-121 Tank 33, 34, 35	CD43-010A	2083488	750049	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD43-010A	2083488	750049	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-010A	2083488	750049	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-010B	2083488	750049	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD43-010B	2083488	750049	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD43-010B	2083488	750049	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
		CD43-010C	2083488	750049	Subsurface Soil	2.5' - 4.5'	Metals	6200	6010
		CD43-010C	2083488	750049	Subsurface Soil	2.5' - 4.5'	Radionuclides	HPGe	Alpha Spec
		CD43-010C	2083488	750049	Subsurface Soil	2.5' - 4.5'	VOCs	8260	8260
	IHSS 500-159 - Radioactive Site Building 559 CD43-000 biased for OPWL	CD43-000E	2083522	750138	Subsurface Soil	6.5' - 8.5'	Metals	6200	6010
		CD43-000E	2083522	750138	Subsurface Soil	6.5' - 8.5'	Radionuclides	HPGe	Alpha Spec
		CD43-000E	2083522	750138	Subsurface Soil	6.5' - 8.5'	VOCs	8260	8260
		CD43-001E	2083537	750076	Subsurface Soil	6.5' - 8.5'	Metals	6200	6010
		CD43-001E	2083537	750076	Subsurface Soil	6.5' - 8.5'	Radionuclides	HPGe	Alpha Spec
		CD43-001E	2083537	750076	Subsurface Soil	6.5' - 8.5'	VOCs	8260	8260
		CD43-002A	2083518	750081	Surface Soil	0' - 0.5'	Metals	6200	6010

IHSS Group	IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Offsite Laboratory Method
		CD43-002A	2083518	750081	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-002A	2083518	750081	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-002B	2083518	750081	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD43-002B	2083518	750081	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD43-002B	2083518	750081	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
		CD43-002E	2083518	750081	Subsurface Soil	6.5' - 8.5'	Metals	6200	6010
		CD43-002E	2083518	750081	Subsurface Soil	6.5' - 8.5'	Radionuclides	HPGe	Alpha Spec
		CD43-002E	2083518	750081	Subsurface Soil	6.5' - 8.5'	VOCs	8260	8260
		CD43-003A	2083530	750115	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD43-003A	2083530	750115	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-003A	2083530	750115	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-003B	2083530	750115	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD43-003B	2083530	750115	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD43-003B	2083530	750115	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
		CD43-003E	2083530	750115	Subsurface Soil	6.5' - 8.5'	Metals	6200	6010
		CD43-003E	2083530	750115	Subsurface Soil	6.5' - 8.5'	Radionuclides	HPGe	Alpha Spec
		CD43-003E	2083530	750115	Subsurface Soil	6.5' - 8.5'	VOCs	8260	8260
		CD44-000E	2083535	750185	Subsurface Soil	6.5' - 8.5'	Metals	6200	6010

IHSS Group	IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Offsite Laboratory Method
	CE43-000 biased for OPWL (Line P-16)	CD44-000E	2083535	750185	Subsurface Soil	6.5' - 8.5'	Radionuclides	HPGe	Alpha Spec
		CD44-000E	2083535	750185	Subsurface Soil	6.5' - 8.5'	VOCs	8260	8260
		CD44-001A	2083519	750176	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD44-001A	2083519	750176	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD44-001A	2083519	750176	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD44-001B	2083519	750176	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD44-001B	2083519	750176	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD44-001B	2083519	750176	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
		CD44-001E	2083519	750176	Subsurface Soil	6.5' - 8.5'	Metals	6200	6010
		CD44-001E	2083519	750176	Subsurface Soil	6.5' - 8.5'	Radionuclides	HPGe	Alpha Spec
		CD44-001E	2083519	750176	Subsurface Soil	6.5' - 8.5'	VOCs	8260	8260
		CE43-000F	2083564	750052	Subsurface Soil	8.5' - 10.5'	Metals	6200	6010
		CE43-000F	2083564	750052	Subsurface Soil	8.5' - 10.5'	Radionuclides	HPGe	Alpha Spec
		CE43-000F	2083564	750052	Subsurface Soil	8.5' - 10.5'	VOCs	8260	8260
		CE43-001A	2083542	750149	Surface Soil	0' - 0.5'	Metals	6200	6010
		CE43-001A	2083542	750149	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CE43-001A	2083542	750149	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CE43-001B	2083542	750149	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010

IHSS Group	IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Offsite Laboratory Method
		CE43-001B	2083542	750149	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CE43-001B	2083542	750149	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
		CE43-001E	2083542	750149	Subsurface Soil	6.5' - 8.5'	Metals	6200	6010
		CE43-001E	2083542	750149	Subsurface Soil	6.5' - 8.5'	Radionuclides	HPGe	Alpha Spec
		CE43-001E	2083542	750149	Subsurface Soil	6.5' - 8.5'	VOCs	8260	8260
		CE43-002A	2083541	750053	Surface Soil	0' - 0.5'	Metals	6200	6010
		CE43-002A	2083541	750053	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CE43-002A	2083541	750053	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CE43-002B	2083541	750053	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CE43-002B	2083541	750053	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CE43-002B	2083541	750053	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
	UBC 528 - Building 528 Temporary Waste Holding Building CD43-013 biased for tanks	CD43-013A	2083527	750056	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD43-013A	2083527	750056	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-013A	2083527	750056	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-013A	2083527	750056	Surface Soil	0' - 0.5'	PCBs	NA	8082
		CD43-013A	2083527	750056	Surface Soil	0' - 0.5'	Pesticides	NA	8081
		CD43-013A	2083527	750056	Surface Soil	0' - 0.5'	Herbicides	NA	8151
	Sample biased for tank and sump	CE43-003A	2083550	750058	Surface Soil	0' - 0.5'	Metals	6200	6010

IHSS Group	IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Offsite Laboratory Method
		CE43-003A	2083550	750058	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CE43-003A	2083550	750058	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CE43-003A	2083550	750058	Surface Soil	0' - 0.5'	PCBs	NA	8082
		CE43-003A	2083550	750058	Surface Soil	0' - 0.5'	Pesticides	NA	8081
		CE43-003A	2083550	750058	Surface Soil	0' - 0.5'	Herbicides	NA	8151
	UBC 559 – Service Analytical Laboratory	CC43-000A	2083320	750139	Surface Soil	0' - 0.5'	Metals	6200	6010
		CC43-000A	2083320	750139	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
	CC43-000 biased for tunnel	CC43-000A	2083320	750139	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CC43-000B	2083320	750139	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CC43-000B	2083320	750139	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CC43-000B	2083320	750139	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
		CC43-001A	2083286	750120	Surface Soil	0' - 0.5'	Metals	6200	6010
		CC43-001A	2083286	750120	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CC43-001A	2083286	750120	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CC43-001B	2083286	750120	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CC43-001B	2083286	750120	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CC43-001B	2083286	750120	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
	CC44-000 bias for coverage	CC44-000A	2083315	750196	Surface Soil	0' - 0.5'	Metals	6200	6010

IHSS Group	IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Offsite Laboratory Method
		CC44-000A	2083315	750196	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CC44-000A	2083315	750196	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CC44-000B	2083315	750196	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CC44-000B	2083315	750196	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CC44-000B	2083315	750196	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
		CC44-001A	2083315	750165	Surface Soil	0' - 0.5'	Metals	6200	6010
		CC44-001A	2083315	750165	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CC44-001A	2083315	750165	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CC44-001B	2083315	750165	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CC44-001B	2083315	750165	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CC44-001B	2083315	750165	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
		CC44-002A	2083332	750235	Surface Soil	0' - 0.5'	Metals	6200	6010
		CC44-002A	2083332	750235	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CC44-002A	2083332	750235	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CC44-002B	2083332	750235	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CC44-002B	2083332	750235	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CC44-002B	2083332	750235	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260

IHSS Group	IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Offsite Laboratory Method
	CD43-004 biased for tunnel. Field will locate sample to the south to ensure tunnel placement.	CD43-004A	2083393	750144	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD43-004A	2083393	750144	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-004A	2083393	750144	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-004B	2083393	750144	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD43-004B	2083393	750144	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD43-004B	2083393	750144	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
	CD43-005 biased for OPWL	CD43-005A	2083453	750099	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD43-005A	2083453	750099	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-005A	2083453	750099	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-005B	2083453	750099	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD43-005B	2083453	750099	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD43-005B	2083453	750099	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
	CD43-006 biased for OPWL	CD43-006A	2083453	750159	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD43-006A	2083453	750159	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-006A	2083453	750159	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-006B	2083453	750159	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD43-006B	2083453	750159	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD43-006B	2083453	750159	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260

IHSS Group	IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Offsite Laboratory Method
	Sample located in tunnel	CD43-007A	2083367	750115	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD43-007A	2083367	750115	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-007A	2083367	750115	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-007B	2083367	750115	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD43-007B	2083367	750115	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD43-007B	2083367	750115	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
		CD43-008A	2083436	750135	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD43-008A	2083436	750135	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-008A	2083436	750135	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-008B	2083436	750135	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD43-008B	2083436	750135	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD43-008B	2083436	750135	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
		CD43-009A	2083505	750155	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD43-009A	2083505	750155	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-009A	2083505	750155	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-009B	2083505	750155	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD43-009B	2083505	750155	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD43-009B	2083505	750155	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260

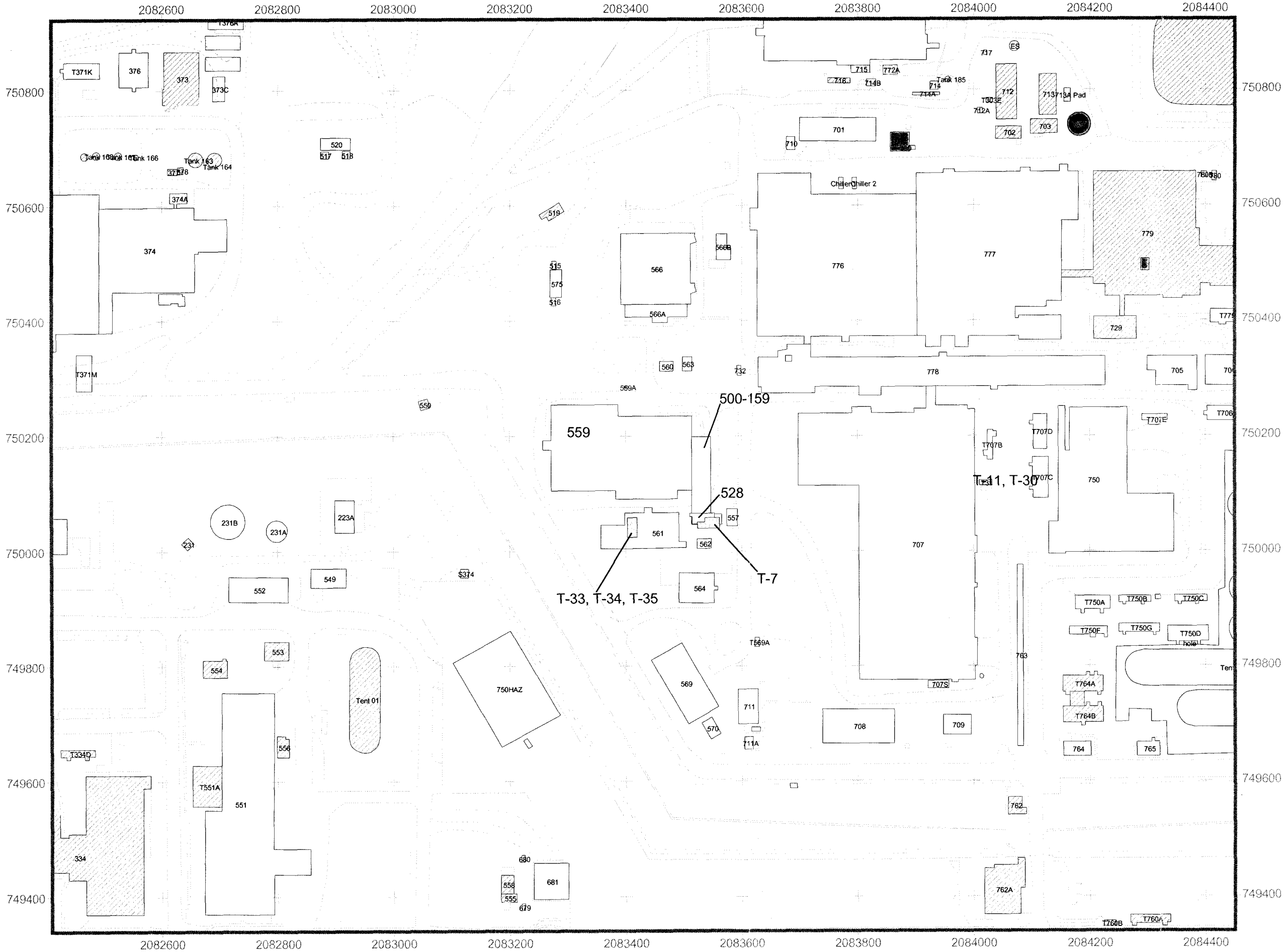
IHSS Group	IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Offsite Laboratory Method
	CD43-015 biased for east end of tunnel. Possible spill indicated.	CD43-015A	2083464	750135	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD43-015A	2083464	750135	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-015A	2083464	750135	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-015B	2083464	750135	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD43-015B	2083464	750135	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD43-015B	2083464	750135	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
	CD43-017 biased for chemical storage closet (Rm. 103D) inside laboratory room 103.	CD43-017A	2083433	750115	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD43-017A	2083433	750115	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-017A	2083433	750115	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-017B	2083433	750115	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD43-017B	2083433	750115	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD43-017B	2083433	750115	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
	CD44-002 biased for "cutting line" area	CD44-002A	2083362	750172	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD44-002A	2083362	750172	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD44-002A	2083362	750172	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD44-002B	2083362	750172	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD44-002B	2083362	750172	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD44-002B	2083362	750172	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260

IHSS Group	IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Offsite Laboratory Method
		CD44-003A	2083384	750185	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD44-003A	2083384	750185	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD44-003A	2083384	750185	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD44-003B	2083384	750185	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD44-003B	2083384	750185	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD44-003B	2083384	750185	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
	CD44-005 biased for sump	CD44-005A	2083463	750185	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD44-005A	2083463	750185	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD44-005A	2083463	750185	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD44-005B	2083463	750185	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD44-005B	2083463	750185	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD44-005B	2083463	750185	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
	CC44-003 West loading dock sample	CC44-003A	2083265	750174	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CC44-003A	2083265	750174	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CC44-003A	2083265	750174	Surface Soil	0' - 0.5'	Metals	6200	6010
	CD43-014 South loading dock sample	CD43-014A	2083380	750098	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-014A	2083380	750098	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-014A	2083380	750098	Surface Soil	0' - 0.5'	Metals	6200	6010

IHSS Group	IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Offsite Laboratory Method
	CD43-016 biased for OPWL in outside SW corner of Building 559	CD43-016A	2083505	750102	Surface Soil	0' - 0.5'	Metals	6200	6010
		CD43-016A	2083505	750102	Surface Soil	0' - 0.5'	Radionuclides	HPGe	Alpha Spec
		CD43-016A	2083505	750102	Surface Soil	0' - 0.5'	VOCs	8260	8260
		CD43-016B	2083505	750102	Subsurface Soil	0.5' - 2.5'	Metals	6200	6010
		CD43-016B	2083505	750102	Subsurface Soil	0.5' - 2.5'	Radionuclides	HPGe	Alpha Spec
		CD43-016B	2083505	750102	Subsurface Soil	0.5' - 2.5'	VOCs	8260	8260
		CD43-016E	2083505	750102	Subsurface Soil	6.5' - 8.5'	Metals	6200	6010
		CD43-016E	2083505	750102	Subsurface Soil	6.5' - 8.5'	Radionuclides	HPGe	Alpha Spec
		CD43-016E	2083505	750102	Subsurface Soil	6.5' - 8.5'	VOCs	8260	8260

Figure 1

IHSS Group 500-3
Location Map



Key

- Paved area
- Dirt road
- Stream, ditch, or other drainage
- Existing structure
- Demolished structure
- UBC site
- IHSS
- OPWL tank (000-121)

N

50 0 50 100 Feet

Scale = 1:2,000

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: RADMS

Prepared for: KAISER•HILL COMPANY

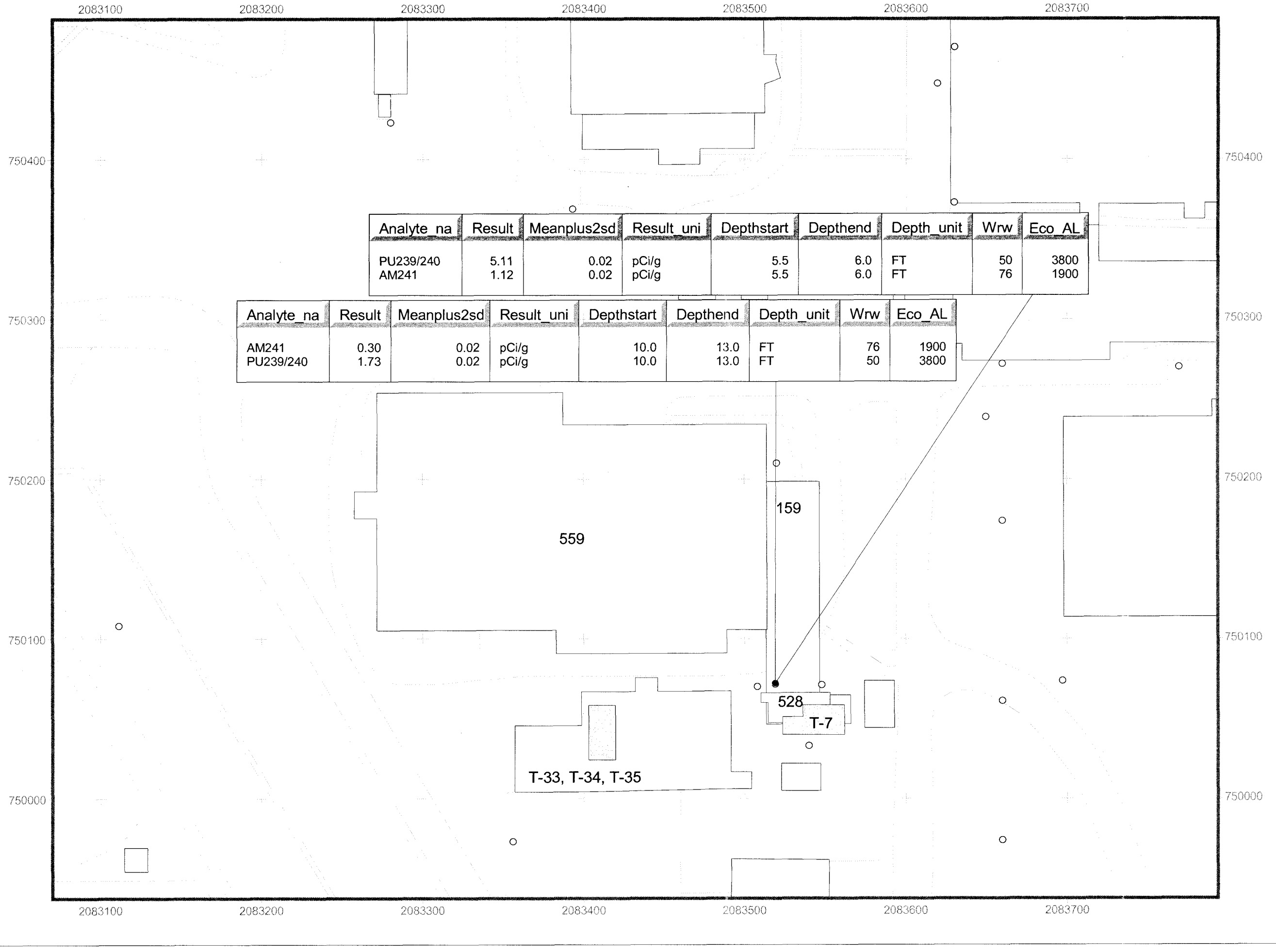
500-3_characterization_MAR_05-27-03.apr May 2003

Figure 2

Existing Preaccelerated Action Soil Sample Results Greater Than Background Means Plus Two Standard Deviations

Analyte_na	Result	Meanplus2sd	Result_uni	Depthstart	Depthend	Depth_unit	Wrw	Eco_AL
PU239/240	5.11	0.02	pCi/g	5.5	6.0	FT	50	3800
AM241	1.12	0.02	pCi/g	5.5	6.0	FT	76	1900

Analyte_na	Result	Meanplus2sd	Result_uni	Depthstart	Depthend	Depth_unit	Wrw	Eco_AL
AM241	0.30	0.02	pCi/g	10.0	13.0	FT	76	1900
PU239/240	1.73	0.02	pCi/g	10.0	13.0	FT	50	3800



Key

- Stream, ditch, or other drainage
- Paved area
- Dirt road
- Demolished Structure
- Structure
- UBC
- IHSS
- OPWL Tank
- Subsurface sample with results greater than background means plus two standard deviations
- Sampling location

N

20 0 20 Feet

Scale = 1:739

Site Plan Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: RADMS

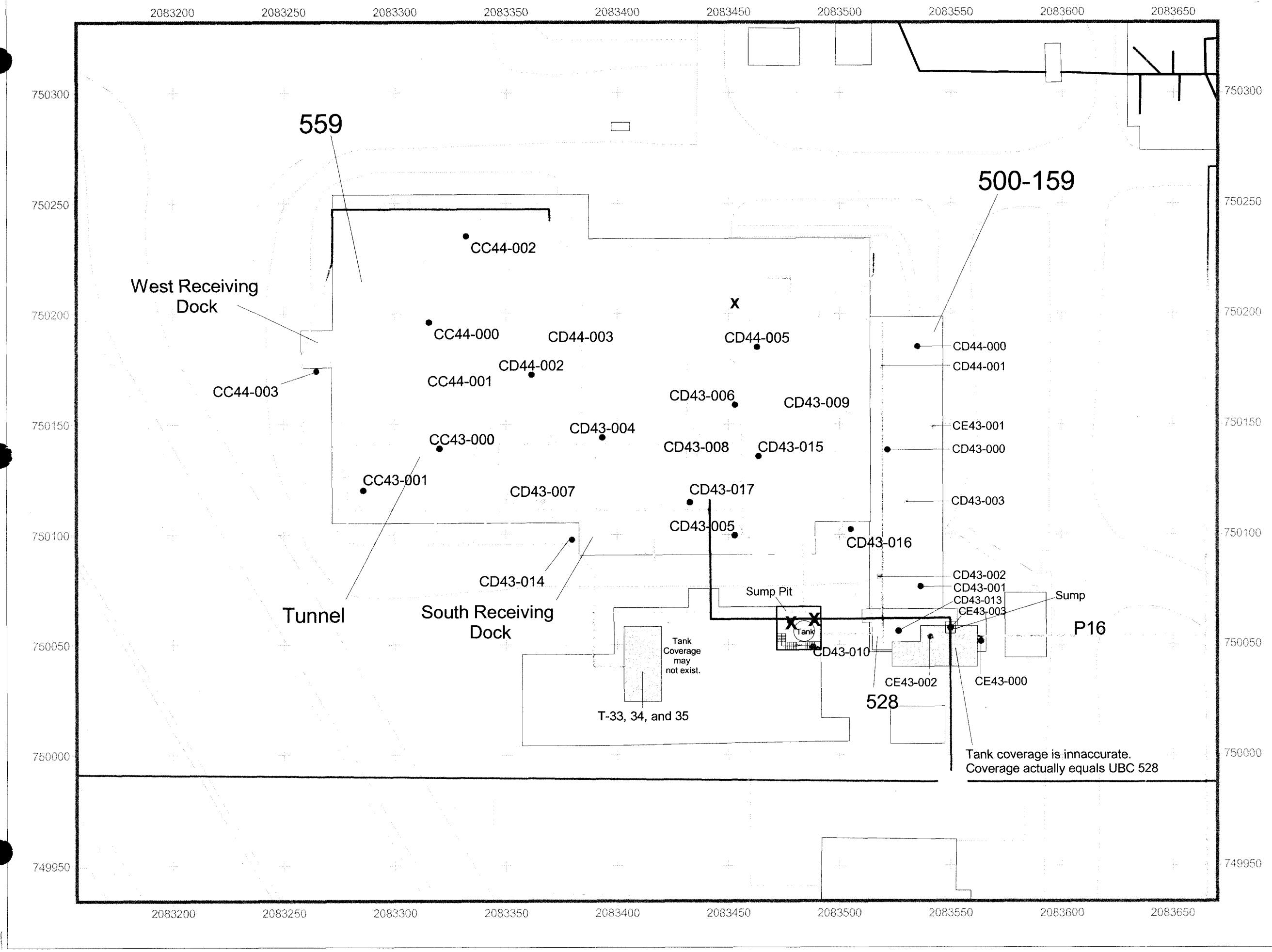
Prepared for: KAISER•HILL COMPANY

File: 500-3_existing_mar.apr

Date: June 2003

Figure 3

IHSS Group 500-3
Proposed Sampling Locations



Key

- Paved area
- Dirt road
- Stream, ditch, or other drainage
- Sewer
- Drain
- Existing structure
- UBC site
- IHSS
- OPWL tank (000-121)
- OPWL (pipe)
- NPWL (pipe)
- Statistical sample
- Bias sample

N

10 0 10 20 Feet

Scale = 1:503

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: RADMS

Prepared for: KAISER•HILL COMPANY

500-3_characterization_MAR_05-27-03.apr May 2003